REMARKS

Claims 1-40 are pending. Claims 1-40 are rejected.

Claim Amendments

Claims 1, 3-6, 9-13, 23-25, 33, 34 and 36-40 are amended with clarifying amendments.

Claims 41-47 are newly added. These claims are supported throughout the specification, for example page 4, lines 14-26.

No new matter is added.

Claim Rejections – 35 U.S.C. § 102(e)

The Examiner has rejected claims 1, 2, 4, 6, 7, 9, 10, 14, 15, 17, 19, 20, 22, 23, 27, 28, 30, 36 and 37 under 35 U.S.C. 102(e) as anticipated by Gaal (U.S. Publication No. 2004/0203475 A1), herein Gaal. The Applicants include the following comments to clearly distinguish the claimed invention over the art cited by the Examiner and respectfully request a favorable reconsideration of claims 1, 2, 4, 6, 7, 9, 10, 14, 15, 17, 19, 20, 22, 23, 27, 28, 30, 36 and 37.

These rejections are respectfully disagreed with, and are traversed below.

The Examiner is respectfully reminded that for a rejection to be made under 35 U.S.C. 102(e), it is well recognized that "to constitute an anticipation, all material elements recited in a claim must be found in one unit of prior art", *Ex Parte Gould*, BPAI, 6 USPQ 2d, 1680, 1682 (1987), citing with approval *In re Marshall*, 578 F.2d 301, 304, 198 USPQ 344, 346 (CCPA 1978).

Regarding claim 1, which states:

> "A method comprising:
> receiving a reported code from a mobile station, the code being indicative of a quantized result of a measurement result value obtained from a forward channel;
> converting the reported code to a number;
> **comparing the number to a threshold**; and
> if the **comparison indicates** that the number may not accurately reflect the measurement result value, **adjusting <u>the number</u> using an adjustment factor**"
> (emphasis added).

The Examiner states Gaal teaches:

"converting the reported code to a number (see Gaal, para. [0028], table 2, converting mapped full C/I ratio bits into quantized full C/I ratio values);

comparing the number to a threshold (see Gaal, papa. [0043], lines 8-12, quantized full C/I ratio is correlated with code word to produce a probability value); and

if the comparison indicates that the number may not accurately reflect the measurement result value (see Gaal, para. [0043], lines 7-15, a low probability values indicates the assigned C/I ratio value may not represent the actual C/I ratio value of the forward link), adjusting the number using an adjustment factor (see Gaal, para. [0029], lines 1-3 and para. [0047], lines 4-9, when reliability of the full C/I is too low, the estimated C/I value is adjusted using the differential value)".

The Applicants respectfully assert that the Examiner has misinterpreted the teachings of Gaal.

Consider the following portion of Gaal:

"The processor 510 can be implemented with various decoding algorithms. In at least one exemplary embodiment, the processor 510 can be implemented with a decoding algorithm that determines a C/I ratio value from a probability vector derived from a feedback parameter. The feedback parameter can be any quality indicator such as the C/I ratio estimate. The probability vector comprises a probability value assigned to one or more of the N possible C/I ratio values (see equation 1). **Each probability value represents an estimate of the probability that its assigned C/I ratio value is the actual C/I ratio for the forward link transmission.** A C/I ratio value can then be selected from the probability vector by selecting the highest possible C/I ratio value that results in a confidence level that the actual C/I ratio is **higher than the selected C/I ratio by at least a probability factor** δ. A probability factor δ of 85% is expected to produce good results, however, as those skilled in the art will readily appreciate, any probability factor δ can be used depending on the specific application, the expected channel conditions, the overall system requirements, and/or other relevant factors" (paragraph [0043], emphasis added).

The Examiner cites this portion of the disclosure of Gaal and states that it teaches that the "quantized full C/I ratio is correlated with code word to produce a probability value". The Examiner also claims, this teaches "comparing the number to a threshold" as in claim 1.

There is no disclosure that the <u>quantized full C/I ratio</u> is compared to a threshold. Rather, the disclosure of Gaal teaches that a probability value is determined and a "C/I ratio value" is selected "that results in a confidence level that the actual C/I ratio is higher than the selected C/I ratio by at least a probability factor δ". Clearly, the disclosure of Gaal does not disclose or

suggest "comparing the number to a threshold" as in claim 1.

Furthermore, consider the following from the disclosure of Gaal:

> "To reduce the impact of R-CQICH decoding errors, the decoding algorithm can be further implemented to **compute a reliability measure** for each full C/I ratio estimate. If the reliability of the full C/I ratio estimate is too low, it can be discarded and the **probability values** for that time slot computed using a differential value. If a differential value is not transmitted on the R-CQICH with the full C/I ratio estimate, the decoding algorithm can artificially create a differential value. For example, a differential value can be created which represents a 50% probability that the differential value is an up command and a 50% probability that the differential value is a down command. The reliability measure can also be used to control the power of the R-CQICH and the repetition rate of the full C/I estimate to further reduce decoding errors" (paragraph [0047], emphasis added).

The Examiner states that this portion teaches "when reliability of the full C/I is too low, the estimated C/I value is adjusted using the differential value". Clearly, the disclosure of Gaal teaches that "the **probability values**" may be "computed using a differential value" when "the reliability of the full C/I ratio estimate is too low". Thus, Gaal does not disclose or suggest "if the comparison indicates that the number may not accurately reflect the measurement result value, **adjusting the number** using an adjustment factor" as in claim 1.

Consider further:

> "a differential encoding scheme may be used in order to exploit the possible correlation between subsequent C/I ratio estimates. The **differences** between the C/I ratio estimates for **subsequent time slots** can be **mapped into a one-bit value** at the subscriber station and then sent over the reverse link to the base station. The base station can then **accumulate all received differential values to obtain a C/I ratio value**. To maintain the stability of the feedback loop in the presence of potential differential decoding errors, the subscriber station may also send **periodic full C/I ratio estimates**. In the described exemplary embodiment, the **full C/I ratio estimate** 206 is mapped into four-bits and **sent in one time slot followed by a differential value 208 in each of the following fifteen time slots**" (paragraph [0025], emphasis added).

> "The quantized full C/I ratio value can then be adjusted during each **subsequent** time slot depending on the differential value. The differential step size can be any size depending on the particular design parameters" (paragraph [0027], emphasis added).

Clearly, the disclosure of Gaal teaches a "differential encoding scheme" where a "full C/I ratio estimate" is transmitted in one time slot and in subsequent time blocks a differential value is sent. This does not disclose or suggest "comparing the number to a threshold" and "if the comparison indicates that the number may not accurately reflect the measurement result value, **adjusting the number** using an adjustment factor" as in claim 1. Thus, Gaal does not anticipate claim 1.

For at least these reasons, claim 1 is in a condition for allowance.

As claims 14, 27 and 36 recite similar language to that discussed above with reference to claim 1, claims 14, 27 and 36 are likewise in a condition for allowance.

Claim 14 recites:
> "A wireless communication system, comprising:
> a mobile station comprising circuitry and a computer program controlling operation of the circuitry to make a measurement from a forward channel to obtain a measurement result value, to quantize the measurement result value in accordance with an N level quantization to obtain a code, and to report the code on a reverse channel; and
> a base station comprising circuitry and a computer program controlling operation of the circuitry to convert the code to a number, to **compare the number to a threshold** and, if the comparison indicates that the number may not accurately reflect the measurement result value, to **adjust the number** using an adjustment factor" (emphasis added).

Claim 27 recites:
> "A network infrastructure component of a wireless communication system, comprising circuitry and a computer program controlling operation of the circuitry to receive a code from a mobile station, the code being indicative of a quantized result of a measurement result value obtained from a forward channel, to convert the code to a number, to **compare the number to a threshold** and, if the comparison indicates that the number may not accurately reflect the measurement result value, to **adjust the number** using an adjustment factor" (emphasis added).

Claim 36 recites:
> "Wireless network apparatus comprising means for receiving a code from a mobile station, the code being indicative of a quantized result of a measurement result value obtained from a forward channel, and for converting the code to a

number, **comparing the number to a threshold** and, if the comparison indicates that the number may not accurately reflect the measurement result value, for **adjusting the number** using an adjustment factor" (emphasis added).

As all of claims 2, 4, 6, 7, 9, 10, 15, 17, 19, 20, 22, 23, 28, 30 and 37 depend upon claims 1 14 and 27, they are likewise in a condition for allowance.

The Examiner is respectfully requested to reconsider and remove the rejection under 35 U.S.C. 102(e) based on Gaal, and to allow claims 1, 2, 4, 6, 7, 9, 10, 14, 15, 17, 19, 20, 22, 23, 27, 28, 30, 36 and 37.

Claim Rejections - 35 U.S.C. 103(a)

The Examiner has rejected claims 5, 8, 18, 21, 31-33, 38 and 39 as being unpatentable under 35 U.S.C. 103(a) over Gaal and Kim et al. (U.S. Publication No. 2003/0137955 A1), herein Kim. The Applicants include the following comments to clearly distinguish the claimed invention over the art cited by the Examiner, and respectfully requests a favorable reconsideration of claims 5, 8, 18, 21, 31-33, 38 and 39.

These rejections are respectfully disagreed with, and are traversed below.

It is well established law that in order for an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case for obviousness. Thus, as interpreted by the Courts, the Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that in accordance with *In re Lee*, the prior art must contain a suggestion, teaching, or motivation for one of ordinary skill in the art to modify a reference or combine references; and that the proposed modification must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made.[1]

As seen above, Gaal does not disclose or suggest claims 1, 14, 27, 36 and 38. As claims 1,

---

[1] *In Re Fine, 5 U.S.Q.2d 1596, 1598 (Fed. Cir. 1988); In Re Wilson, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); Agmen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996); In Re Sang Su Lee, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002).*

14, 27, 36 and 38 are allowable over Gaal then all claims that depend from claims 1, 14, 27 and 36 should also be allowable over Gaal, whether considered alone or in combination with other art cited and applied by the Examiner. For at least this reason, claims 5, 8, 18, 21

Regarding claim 5, which recites:

> "A method as in claim 4, where the adjustment factor is computed by the mobile station by:
> during a period of time when the reported codes do not accurately reflect actual measurement result values, **determining a difference** between individual ones of actual measurement result values and a **threshold measurement result value**;
> averaging the difference values; and
> reporting the average of the difference values as the adjustment factor" (emphasis added).

The Examiner states that Gaal teaches:

> "determining a difference between individual ones of actual measurement result values and a threshold measurement result value (see Gaal, para. [0043], lines 7-16).

The Applicants respectfully assert that the Examiner has misinterpreted the teaching of Gaal. As noted above, this portion of the disclosure of Gaal teaches determining if a "confidence level" "is higher... by at least a probability factor δ". Clearly, Gaal does not disclosure or suggest "determining a difference between individual ones of actual measurement result values and a threshold measurement result value" as in claim 5.

Additionally, it should be noted that in the independent claim, the Examiner asserts: "comparing the number to a threshold (see Gaal, papa. [0043], lines 8-12, quantized full C/I ratio is correlated with code word to produce a probability value)". However, "the number" and "threshold" discussed in the independent claim are not the same "individual ones of actual measurement result values" and a "threshold measurement result value" as in claim 5.

As Kim is not suggested as remedying the deficiencies of Gaal, the combination of Gaal and Kim, herein Gaal-Kim, does not disclose or suggest "determining a difference between individual ones of actual measurement result values and a threshold measurement result value" as in claim 5. Thus, for at least this reason claim 5 is in a condition for allowance.

As claim 18 recites similar language to that discussed above with reference to claim 5, claim 18 is likewise in a condition for allowance.

Claim 18 recites:

"A wireless communication system as in claim 17, where the circuitry and the computer program controlling operation of the circuitry of the mobile station determines the value of the adjustment factor by being responsive to a period of time when the obtained codes do not accurately reflect the actual measurement result values to **determine a difference** between individual ones of **actual measurement result values** and a **threshold measurement result value**; to average the difference values; and to report the average of the difference values as the adjustment factor to the base station" (emphasis added).

As claims 8 and 21 depend upon claims 5 and 18 they are likewise in a condition for allowance.

Regarding claim 31, which recites:

"A **mobile station** component of a wireless communication system, comprising circuitry and a computer program controlling operation of the circuitry to make a measurement from a forward channel to obtain a measurement result value, to quantize the measurement result value in accordance with an N level quantization to obtain a code, to report the code on a reverse channel to a wireless communication system infrastructure component, and to **determine a value of an adjustment factor** for use by the infrastructure component when processing the code by being responsive to a period of time when the **obtained codes do not accurately reflect actual measurement result values** to determine a difference between individual ones of actual measurement result values and a threshold measurement result value, to average the difference values and to report the average of the difference values as the adjustment factor to the infrastructure component" (emphasis added).

The Examiner asserts that Gaal teaches a <u>mobile station</u>:

"to determine a value of an adjustment factor for use by the infrastructure component when processing the code (see Gaal, fig. 2; differential value 208; para. [0025], lines 15-16; fig. 3 and para. [0032], +.5 or -.5 dB) by being responsive to a period of time when the obtained codes do not accurately reflect actual measurement result values (see Gaal, para. [0043], lines 7-15, a low probability values indicates the assigned C/I ratio value may not represent the actual C/I ratio value of the forward link) to determine a difference between individual ones of actual measurement result values and a threshold measurement result value, to average the difference values (see Gaal, para. [0043], lines 7-16)" (emphasis added).

16

The Applicants respectfully assert that the Examiner has misinterpreted the teaching of Gaal.

Consider the disclosure of Gaal:

> **[0042] FIG. 5** is a functional block diagram of the exemplary **base station** described in connection with **FIG. 1**. The base station **102** typically includes ... a processor **510** to decode the forward link C/I ratio estimate carried by the R-CQICH. In a manner to be described in greater detail later, the T/P ratio and the repetition rate can be adjusted by the processor **510** based on the reliability of the decoding operation.
>
> **[0043]** The processor **510** can be implemented with various decoding algorithms. In at least one exemplary embodiment, the processor **510** can be implemented with a decoding algorithm that determines a C/I ratio value from a probability vector derived from a feedback parameter. The feedback parameter can be any quality indicator such as the C/I ratio estimate. The probability vector comprises a probability value assigned to one or more of the N possible C/I ratio values (see equation 1). Each probability value represents an estimate of the probability that its assigned C/I ratio value is the actual C/I ratio for the forward link transmission" (paragraphs [0042] and [0043], emphasis added).

Clearly, the cited sections of Gaal are directed to a processor 510 of a base station rather than to a "mobile station" as in claim 31. Thus, Gaal does not disclose that the mobile station determines "a value of an adjustment factor" when "when the obtained codes do not accurately reflect actual measurement result values" as in claim 31.

Furthermore, as seen above, Gaal does not disclose or suggest "a threshold measurement result value" as in claim 31.

As Kim is not suggested as remedying the deficiencies of Gaal, the combination of Gaal and Kim, herein Gaal-Kim, does not disclose or suggest "a threshold measurement result value" or that the mobile station determines "a value of an adjustment factor for use by the infrastructure component when processing the code by being responsive to a period of time when the obtained codes do not accurately reflect actual measurement result values" as in claim 31. Thus, for at least this reason claim 31 is in a condition for allowance.

As claim 38 recites similar language to that discussed above with reference to claim 1, claim 38 are likewise in a condition for allowance.

Claim 38 recites:

17

"Wireless network apparatus comprising means for making a measurement from a received channel to obtain a measurement result value; means for quantizing the measurement result value in accordance with an N level quantization to obtain a code; and means for reporting the code to a wireless communication system infrastructure component, further comprising means for **determining a value of an adjustment factor** for use by the infrastructure component when processing the code, said value determining means being responsive to an occurrence of a period of time when an **obtained code does not accurately reflect actual measurement result values** for determining a difference between individual ones of actual measurement result values and a threshold measurement result value, for averaging the difference values and for reporting the average of the difference values as the adjustment factor to the infrastructure component" (emphasis added).

As all of claims 32, 33 and 39 depend upon claims 31 and 38, they are likewise in a condition for allowance.

The Examiner has rejected claims 11, 13, 24 and 26 as being unpatentable under 35 U.S.C. 103(a) over Gaal and Holtzman (U.S. Publication No. 2004/0057394 A1). The Applicants include the following comments to clearly distinguish the claimed invention over the art cited by the Examiner, and respectfully requests a favorable reconsideration of claims 11, 13, 24 and 26.

These rejections are respectfully disagreed with, and are traversed below.

As seen above, Gaal does not disclose or suggest claims 1 and 14. As claims 1 and 14 are allowable over Gaal then all claims that depend from claims 1 and 14 should also be allowable over Gaal, whether considered alone or in combination with other art cited and applied by the Examiner. For at least this reason, claims 11, 13, 24 and 26 are in a condition for allowance.

Furthermore, it is noted that on page 14, the Examiner refers to "the teaching of Arima and Gaal with the teaching of Holtzman". The Applicants assume the Examiner did not intend to refer to Arima in this instance. However, if the Applicants are incorrect the Applicants respectfully request the Examiner to provide detailed references in support of this claim.

The Examiner has rejected claims 12, 25, 34, 35 and 40 as being unpatentable under 35 U.S.C. 103(a) over Gaal and Kim and further in view of Holtzman. The Applicants include the

following comments to clearly distinguish the claimed invention over the art cited by the Examiner, and respectfully requests a favorable reconsideration of claims 12, 25, 34, 35 and 40.

These rejections are respectfully disagreed with, and are traversed below.

As seen above, Gaal-Kim does not disclose or suggest claims 1, 14, 31 and 38. As claims 1, 14, 31 and 38 are allowable over Gaal-Kim then all claims that depend from claims 1, 14, 31 and 38 should also be allowable over Gaal-Kim, whether considered alone or in combination with other art cited and applied by the Examiner. For at least this reason, claims 12, 25, 34, 35 and 40 are in a condition for allowance.

Furthermore, it is noted that on page 15, the Examiner refers to "the teaching of Arima, Gaal and Kim with the teaching of Holtzman". The Applicants assume the Examiner did not intend to refer to Arima in this instance. However, if the Applicants are incorrect the Applicants respectfully request the Examiner to provide detailed references in support of this claim.

The Examiner has rejected claims 3 and 16 as being unpatentable under 35 U.S.C. 103(a) over Gaal and Kim and further in view of Arima et al. (U.S. Publication No. 2006/0165091 A1), herein Arima. The Applicants include the following comments to clearly distinguish the claimed invention over the art cited by the Examiner, and respectfully requests a favorable reconsideration of claims 3 and 16.

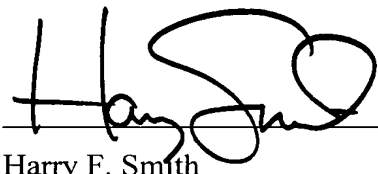These rejections are respectfully disagreed with, and are traversed below.

As seen above, Gaal-Kim does not disclose or suggest claims 1 and 14. As claims 1 and 14 are allowable over Gaal-Kim then all claims that depend from claims 1 and 14should also be allowable over Gaal-Kim, whether considered alone or in combination with other art cited and applied by the Examiner. For at least this reason, claims 3 and 16 are in a condition for allowance.

In light of the discussion above, the Applicants respectfully assert that a prima facie case for obviousness was not presented as required by the court in *In re Lee*. As such, the Applicants

respectfully request that the Examiner reconsider and withdraw these rejections.

The Examiner is respectfully requested to favorably consider and allow all of the pending claims 1-40 as now presented for examination. An early notification of the allowability of claims 1-40 is earnestly solicited.

Respectfully submitted:

Harry F. Smith   12/04/2007
                                                  Date

Reg. No.: 32,493

Customer No.: 29683

HARRINGTON & SMITH, PC

4 Research Drive

Shelton, CT 06484-6212

Telephone:(203)925-9400

Facsimile: (203)944-0245

email: hsmith@hspatent.com

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450.

_12/4/2007_   _Elaine F. Mian_
Date   Name of Person Making Deposit